

REMARKS

The Office Action of July 26, 2002 has been received and reviewed. This response is directed to that action. Applicants petition the USPTO for a one-month extension of time to reply to this action. The office is hereby authorized to charge Applicant's deposit account accordingly.

Claim Rejections-35 U.S.C. §112, first paragraph

Claims 1-2, 4-5, 8 and 12-30 were rejected under 35 U.S.C. §112, first paragraph. Claims 1, 15 and 23 were rejected because the 2 wt. % limitation on unsaturates (claims 1 and 15) and olefins (claim 23) was new matter not supported by the specification. These claims have been amended to recite a 0.5 wt.% unsaturates and olefins. Support for these amendments can be found on pages 5-6 of the specification. Claim 1 was also amended to include the cetane number of the diesel fuel and to further characterize the oxygenates. Support for these amendments can be found on page 7, second paragraph and page 8, fourth paragraph, respectively.

The Examiner further rejected claim 5 as adding new matter not disclosed in the specification. The claim has been amended to recite *in hæc verba* the language from page 2, paragraph 2 of the specification. Therefore, this rejection is obviated.

Claims 15-19 were rejected for not providing a description for the phrase "petroleum hydrocarbon". The claim has been amended in the claims to read "a hydrocarbon

Furthermore, claims 26-30 were rejected as based on a disclosure that is not enabling. The Examiner stated that the adding of a C₅-500°F fraction to the 700°F+ Fischer-Tropsch fraction during hydroisomerization for the production of the blend boiling in the range of 250°-700°F is essential to the invention, but not included in the claims. Applicants amended claim 26 to include the step recited in claim 27 of blending the C₅-500°F fraction to the 700°F+ reactor product prior to hydroisomerization. Therefore, the amended claim is enabled and the rejection is obviated.

Claim rejections-35 U.S.C. §112, second paragraph

Claims 1-2, 4-5, 8 and 12-30 were rejected under 35 U.S.C. §112, first paragraph. Claims 1, 5 and 15 (and their dependent claims) were rejected as being indefinite for the phrase "wherein the fraction comprising the majority of oxygen is not hydrotreated". The claims have been amended to remove this phrase, thus obviating the rejection. Moreover, the antecedent basis rejections of claims 1 and 15 relating to this phrase are also obviated in view of the amendment.

The Examiner rejected claim 18 as indefinite and lacking antecedent basis for the phrase "boils contains feeds". This has been amended to obviate this rejection. Claim 28 was also rejected as indefinite and lacking antecedent basis for the phrase "product boils in the range of C₅-600°F". This has been amended to narrow the boiling range of the Fischer-Tropsch fraction, thus obviating the rejections. Claim 22 was deleted, thus obviating the indefiniteness rejection of this claim.

Applicants believe that the claims now present in this application to be patentable and that the Examiner's rejections are fully answered and such favorable action is respectfully

would be advanced by a conference, she is invited to contact Applicants' attorney at the telephone number noted below.

Respectfully submitted,



Mark D. Marin
Attorney for Applicant(s)
Registration No. 50,842
Telephone No. (908) 730-3271

ExxonMobil Research and Engineering Company
(formerly Exxon Research and Engineering Company)
P. O. Box 900
Annandale, New Jersey 08801-0900

MDM/pmp
(11-13-02)

AMENDED CLAIMS WITH MARKINGS

1. (Thrice amended) A distillate fraction useful as a fuel heavier than gasoline or as a blending component for a distillate fuel comprising:

a 250-700°F distillate fraction derived from a Fischer-Tropsch catalytic process [, wherein the fraction comprising the majority of oxygen is not hydrotreated,] and containing

at least 95 wt. % paraffins [with an iso to normal ration of about 0.3 to 3.0]

a cetane number of at least 60

≤ 50 ppm (wt) each of sulfur and nitrogen

less than about [2] 0.5 wt. % unsaturates, and

about [0.025] 0.0025 to less than 0.3 wt. % linear C₁₂-C₂₄ primary alcohol

oxygenates as oxygen on a water free basis.

5. (Thrice Amended) A process for producing a distillate fuel heavier than gasoline comprising:

(a) separating the wax-containing product of a Fischer-Tropsch process into a heavier fraction containing 700°F+ hydrocarbons and a lighter fraction containing 700°F- hydrocarbons;

(b) further separating the lighter fraction into at least two [distillate] other fractions, (i) [at least one fraction containing primary C₁₂-C₂₄ primary alcohols] one of which contains primary C₁₂- alcohols; and (ii) [one or more other fractions] one of which does not contain said alcohols;

(c) hydroisomerizing at least a portion of the heavier fraction of step (a) and at least a portion of the (b)(ii) fraction at hydroisomerization conditions and recovering a 700°F- fraction;

(d) blending at least a portion of the fraction of (b)(i) with at least a portion of the 700°F-

fraction;

contains 0.0025 to 0.3 wt.% C₁₂-C₂₄ primary linear alcohol oxygenate, as oxygen on a water free basis.

15. (Thrice Amended) A blended fuel, useful as a diesel fuel, comprising:

(a) a 250-700°F distillate fraction derived from the Fischer-Tropsch process which contains;

at least 95 wt. % paraffins [with an iso to normal ration of about 0.3 to 3.0]

a cetane number of at least 60

≤ 50 ppm (wt) each of sulfur and nitrogen

less than about [2] 0.5 wt. % unsaturates, and

about [0.025] 0.0025 to less than 0.3 wt. % linear C₁₂-C₂₄ primary alcohol

oxygenates as oxygen on a water free basis,

blended with

(b) a [petroleum derived] hydrocarbon fraction.

[wherein the 250-700°F distillate fraction derived from the Fischer-Tropsch process comprises 10% or more of the blended fuel.]

18. (Amended) A blended fuel according to claim 15 wherein said [petroleum derived] hydrocarbon fraction [boils] contains feeds of about the same boiling range as the 250-700°F distillate fraction derived from the Fischer-Tropsch process.

19. (Twice Amended) A blended fuel according to claim 15 or 18 wherein said [petroleum derived] hydrocarbon is selected from the group consisting of raw distillates, raw gas oils

hydrogenated catalytic distillates, hydrogenated catalytic gas oils, thermally cracked distillates, and thermally cracked oils.

23. (Amended) A heavier than gasoline distillate fraction useful as a fuel composition or a blending component therefor, comprising a C₅-500°F boiling range fraction recovered from a Fischer-Tropsch hydrocarbon synthesis reactor wherein said fraction contains less than or equal to 50 ppm (wt) sulfur; less than or equal to 50 ppm (wt) nitrogen; virtually no aromatics; less than or equal to [2] 0.5 wt. % olefins; and at least 0.001 wt. % oxygenate as oxygen as determined on a water free basis.

26. (Amended) A blended fuel, useful as a diesel fuel comprising a 500°-700°F+ boiling range fraction recovered from a Fischer-Tropsch hydrocarbon synthesis reactor blended with a hydroisomerized 700°F+ Fischer-Tropsch derived reactor product wherein said blend boils in the range of 250°-700°F, and wherein at least a portion of said 700°F+ Fischer-Tropsch derived reactor product is combined with a lighter C₅-500°F boiling range Fischer-Tropsch derived reactor product prior to hydroisomerization.

28. (Amended) The blended fuel of claim 27 wherein said lighter Fischer-Tropsch product boils in the range of [C₅-600°F] C₅-500°F.

AMENDED CLAIMS IN CLEAN FORM

1. (Thrice amended) A distillate fraction useful as a fuel heavier than gasoline or as a blending component for a distillate fuel comprising:

a 250-700°F distillate fraction derived from a Fischer-Tropsch catalytic process and containing

at least 95 wt. % paraffins

a cetane number of at least 60

≤ 50 ppm (wt) each of sulfur and nitrogen

less than about 0.5 wt. % unsaturates, and

about 0.0025 to less than 0.3 wt. % linear C₁₂-C₂₄ primary alcohol oxygenates as oxygen on a water free basis.

5. (Thrice Amended) A process for producing a distillate fuel heavier than gasoline comprising:

(a) separating the wax-containing product of a Fischer-Tropsch process into a heavier fraction containing 700°F+ hydrocarbons and a lighter fraction containing 700°F- hydrocarbons;

(b) further separating the lighter fraction into at least two other fractions, (i) one of which contains primary C₁₂- alcohols; and (ii) one of which does not contain said alcohols;

(c) hydroisomerizing at least a portion of the heavier fraction of step (a) and at least a portion of the (b)(ii) fraction at hydroisomerization conditions and recovering a 700°F- fraction; and

(d) blending at least a portion of the fraction of (b)(i) with at least a portion of the 700°F- fractions of step (c) and recovering a product boiling in the range of 250-700°F which

contains 0.0025 to 0.3 wt.% C₁₂-C₂₄ primary linear alcohol oxygenate, as oxygen on a water free basis.

15. (Thrice Amended) A blended fuel, useful as a diesel fuel, comprising:

(a) a 250-700°F distillate fraction derived from the Fischer-Tropsch process which contains;

at least 95 wt. % paraffins

a cetane number of at least 60

≤ 50 ppm (wt) each of sulfur and nitrogen

less than about 0.5 wt. % unsaturates, and

about 0.0025 to less than 0.3 wt. % linear C₁₂-C₂₄ primary alcohol oxygenates

as oxygen on a water free basis,

blended with

(b) a hydrocarbon fraction.

18. (Amended) A blended fuel according to claim 15 wherein said hydrocarbon fraction contains feeds of about the same boiling range as the 250-700°F distillate fraction derived from the Fischer-Tropsch process.

19. (Twice Amended) A blended fuel according to claim 15 or 18 wherein hydrocarbon is selected from the group consisting of raw distillates, raw gas oils, hydrogenated catalytic distillates, hydrogenated catalytic gas oils, thermally cracked distillates, and thermally cracked oils

6
23. (Amended) A heavier than gasoline distillate fraction useful as a fuel composition or a blending component therefor, comprising a C₅-500°F boiling range fraction recovered from a Fischer-Tropsch hydrocarbon synthesis reactor wherein said fraction contains less than or equal to 50 ppm (wt) sulfur; less than or equal to 50 ppm (wt) nitrogen; virtually no aromatics; less than or equal to 0.5 wt. % olefins; and at least 0.001 wt. % oxygenate as oxygen as determined on a water free basis.

26. (Amended) A blended fuel, useful as a diesel fuel comprising a 500°-700°F+ boiling range fraction recovered from a Fischer-Tropsch hydrocarbon synthesis reactor blended with a hydroisomerized 700°F+ Fischer-Tropsch derived reactor product wherein said blend boils in the range of 250°-700°F, and wherein at least a portion of said 700°F+ Fischer-Tropsch derived reactor product is combined with a lighter C₅-500°F boiling range Fischer-Tropsch derived reactor product prior to hydroisomerization.

8
28. (Amended) The blended fuel of claim 27 wherein said lighter Fischer-Tropsch product boils in the range of C₅-500°F.